Water Supply Outlook For Washington

SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Cooperating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

AS OF
APR. 1, 1980

USDA SCS PORTLAND, OR 1979

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: THE SNOTEL PROJECT CENTRAL COMPUTER FACILITIES IN PORTLAND, OREGON. THE TERMINAL, PRINTER, COMPUTER AND TAPE DRIVES HAVE NOT COMPLETELY REPLACED THE SNOW SAMPLING TUBES SEEN IN THE FOREGROUND.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.

WATER SUPPLY OUTLOOK FOR WASHINGTON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

NORMAN A. BERG
ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D C

Released by

LYNN A. BROWN
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
SPOKANE, WASHINGTON

In Cooperation with

WILBUR G. HALLAUER
DIRECTOR
DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON

Report prepared by

ROBERT T. DAVIS, Snow Survey Supervisor
and
NORINE P. KENT, Statistical Assistant

SOIL CONSERVATION SERVICE
360 U.S. COURTHOUSE
SPOKANE, WASHINGTON 99201

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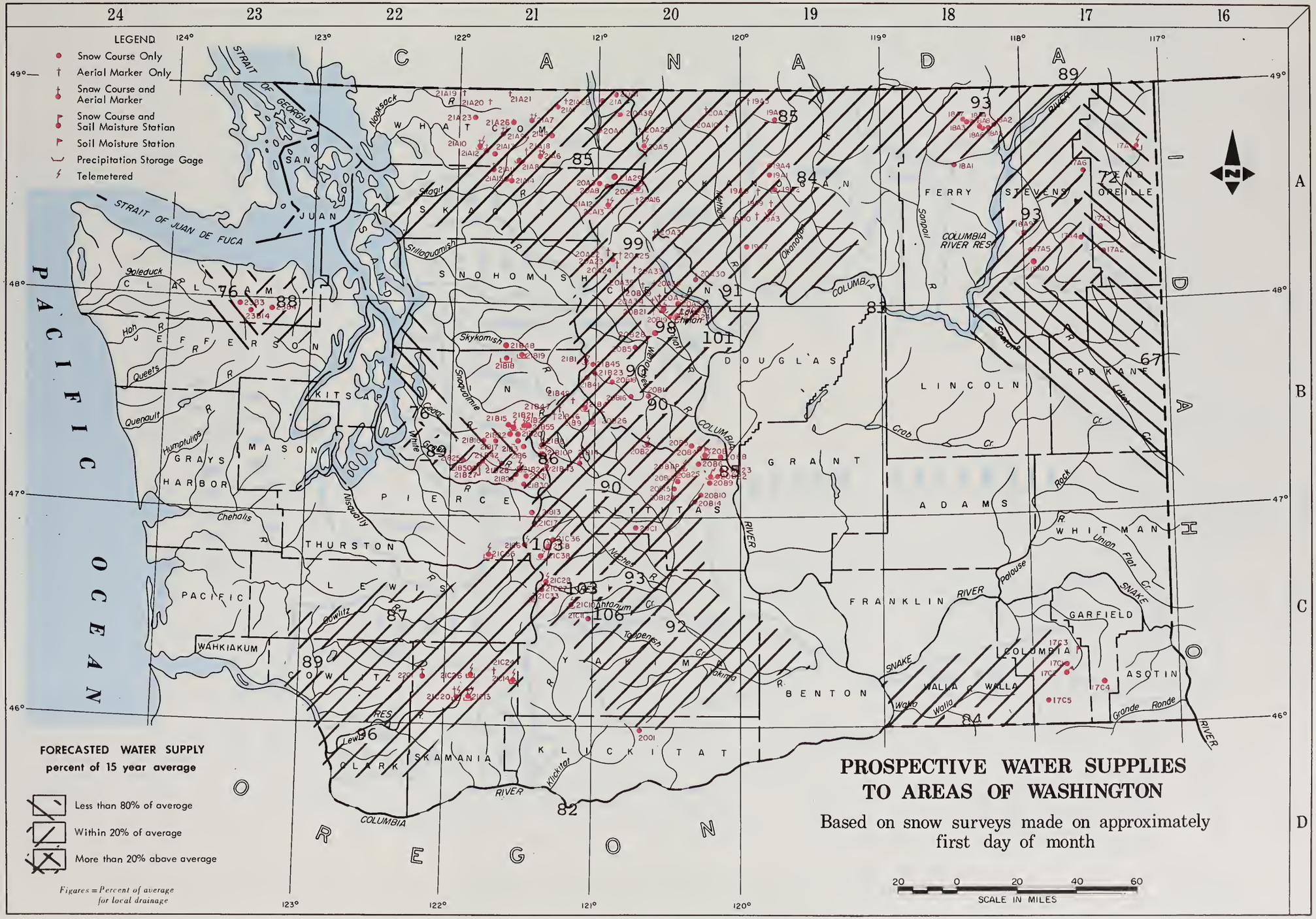

INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

UPPER COLUMBIA DRAINAGE

Pend Oreille River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bayer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970

Kettle River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boulder Road	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600

Colville River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Togo	18A10	6	29N	38E	3370

Sanpoil River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Sherman Creek Pass	18A1	19	36N	35E	5350

Okanogan River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9o	20	36N	24E	6750
Mutton Creek No. 1	19A1	30	37N	24E	5700
Muttan Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Tauts Caulee	19A6	30	39N	25E	2845

Methaw River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Harseshae Basin	19A5a	15	40N	23E	7000
Laup Laup	19A7	36	34N	23E	4650

Chelan Lake Basin

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cloudy Poss	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Pork Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	18	34N	16E	4600
Petersons	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500

Entiat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Four Mile Ridge	20B27a	15	28N	19E	6800
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tommy Creek	20B21o	10	28N	18E	4900

Wenatchee River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Poss	21B1SP	14	26N	13E	4070
Stevens Poss Sond Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310

Colockum Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300

Squilchuck Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400

Stemilt Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400

Yakima River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Joe Lake	21B46a	22	23N	12E	4624
Loke Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

Asatin Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Spruce Springs	17C4	9	8N	40E	5700

Touchet River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Couse	17C3m	2	9N	40E	3370
Hamestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Touchet No. 2	17C5SP	6	7N	40E	5530

Klickitat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Satus Poss	20D1	21	6N	17E	4030

Lewis River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lone Pine Shelter	21C26SP	8	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadow	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250

Cawlitz River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cayuse Poss	21C6	15	16N	10E	5300
Pigtail Peak	21C33SP	11	13N	11E	5900
Potato Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

Nisqually River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Paradise Park (New)	21C35SP	13	15N	8E	5500

White River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Corrol Pass	21B13SP	30	18N	11E	6000

Green River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100

Cedar River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washingtan	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fark Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400

Snoqualmie River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
Sauth Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	8700

Skykomish River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lake Elizabeth	21B19P	33	26N	10E	2900

Skagit River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brown Top	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeout Meadows (New)	20A38	8	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadows Cobins	20A8	29	36N	14E	1900
New Hazomeen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200

Baker River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Dock Butte	21A11A	8	36N	8E	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Mount Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500

Noaksack River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panorama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

Dungeness River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Deer Park	23B4	1	28N	5W	5200

Morse Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cox Valley	23B14	31	29N	6W	4500

Elwha River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A7A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A p	Precipitation Storage Gage
21A7SP	Snow Pillow

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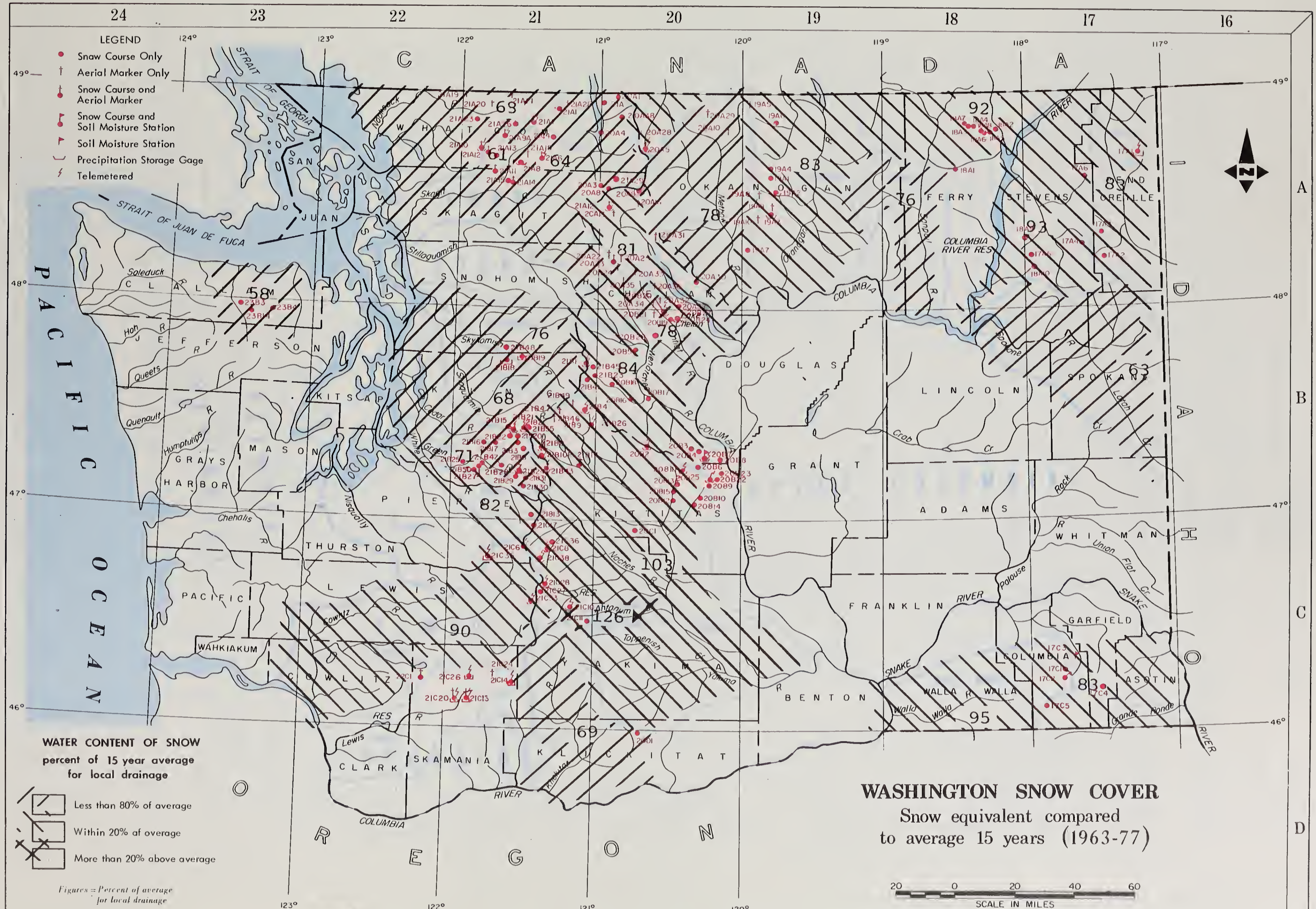

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NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE					
Pend Oreille River					
Boyer Mauntain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970
Kettle River					
Boulder Raad	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600
Colville River					
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	3BE	4990
Toga	18A10	6	29N	3BE	3370
Sanpoil River					
Sherman Creek Pass	1BA1	19	36N	35E	5350
Okanogan River					
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Mutton Creek No. 1	19A1	30	37N	24E	5700
Mutton Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	1BE	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2 SP	33	37N	24E	4500
Starvatian Mtn.	19A10a	15	35N	23E	6750
Touts Caulee	19A6	30	39N	25E	2B45
Methow River					
Billy Goat Pass	20A10a	10	3BN	20E	6400
Dallar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Horseshoe Basin	19A5a	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650
Chelan Lake Basin					
Claudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	1B	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Pork Creek Ridge	20A12SP	18	34N	16E	4600
Petersans	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbar	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	1BE	6500
Entiat River					
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Four Mile Ridge	20B27a	15	28N	19E	6B00
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Poss	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tommy Creek	20B21a	10	2BN	18E	4900
Wenatchee River					
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leovenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B1B	4	26N	16E	2140
Stevens Poss	21B1SP	14	26N	13E	4070
Stevens Pass Sond Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Colockum Creek					
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300
Squilchuck C eek					
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400
Stemilt Creek					
Jump-Off	20BB	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400
Yakima River					
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21CBP	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Joe Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manostash	20C1	24	17N	16E	3935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Von Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Asotin Creek					
Spruce Springs	17C4	9	8N	40E	5700
Touchet River					
Couse	17C3m	2	9N	40E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Tauchet No. 2	17C5SP	6	7N	40E	5530
Klickitot River					
Satus Pass	20D1	21	6N	17E	4030

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lewis River					
Lone Pine Shelter	21C26 SP	B	9N	7E	3800
Plains of Abraham	22C1 SP	35	9N	5E	4400
Spencer Meadaw	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13 SP	14	7N	8E	4250
Cawlitz River					
Cayuse Pass	21C6	15	16N	10E	5300
Pigtail Peak	21C33 SP	11	13N	11E	5900
Potato Hill	21C14 SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Nisqually River					
Paradise Pork (New)	21C35 SP	13	15N	8E	5500
White River					
Corral Pass	21B13 SP	30	18N	11E	6000
Green River					
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	BE	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshae Butte	21B43SP	14	20N	11E	5000
Stompede Pass	21B10 SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100
Cedor River					
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400
Snoqualmie River					
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	8700
Skykomish River					
Lake Elizabeth	21B19P	33	26N	10E	2900

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Skagit River					
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	36B0
Brawn Top	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeout Meadows (New)	20A3B	8	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadows Cabins	20A8	29	36N	14E	1900
New Hozomeen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200
Baker River					
Duck Butte	21A11A	B	36N	BE	3B00
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	3BN	11E	5400
Morten Lake	21A9A	23	38N	BE	3600
Mount Blum	21A18a	27	3BN	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	1B	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500
Naoksack River					
Bald Mountoin	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	BE	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panorama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Dungeness River					
Deer Pork	23B4	1	28N	5W	5200
Morse Creek					
Cox Volley	23B14	31	29N	6W	4500
Elwha River					
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A p	Precipitation Storage Gage
21A SP	Snow Pillow

WATER SUPPLY OUTLOOK

State of Washington

April 1, 1980

The snow survey measurements made as of April 1 are considered the key measuremnts of the year. Generally speaking, the maximum snow water equivalent is reached by April 1 at most snow courses with only a few high elevation courses peaking out as of May 1, and the low elevation courses having already peaked out as of March 1. Forecasts prior to April 1 are generally prepared with a normal increment of snow to April 1. From March 1 to April 1 in 1980, this normal increment generally occurred, so very little change is being reported from March 1 to April 1. The mainstem of the Columbia River is now expected to flow from 82 to 89 percent of normal with the better flows coming out of British Columbia and the lesser flows from the Snake and Washington tributary basins. The Clark Fork-Pend Oreille system is only expected to have 72 percent normal outflows and the Spokane 67 percent. A slight improvement occurred in the Okanogan River system where now we can expect 85 percent normal outflows from the Similkameen and 84 percent from the Okanogan. The Methow River system is expected to have an outflow of 91 percent. Above normal conditions can be expected from the Chelan River system with the Wenatchee running 10 percent below normal. The Yakima Basin can expect a 92 percent outflow, as measured at Parker, and the individual stations in the Yakima Basin range from a low of 86 percent to a high of 106 percent. In the Lower Columbia River system, we can expect outflows in the Mill Creek area of 84 percent of normal, 96 percent in the Lewis River, and 87 for the Cowlitz. Over on the Olympic Peninsula, we can expect an 88 percent outflow for the Dungeness, dropping to a 76 percent for the Elwha. In the Puget Sound Drainage, we can expect an 85 percent outflow for the Skagit River, 89 for the Green, and 76 percent for the Cedar. All of the above numbers are April-September flows. The snowpack throughout the basin now stands from a low of 63 percent of normal to a high of 103 percent in the Upper Columbia Basin and from a low of 69 percent to a high of 95 in the Lower Columbia. In the Puget Sound Drainage, the snowpacks range from 58 percent of normal for the Cedar to a high of 82 percent on the White. The Olympic Peninsula still has the lowest of any recorded basin with the Elwha recording only 40 percent of normal snowpacks while the Dungeness has a high of 69 percent. Winter precipitation was reported to be subnormal in five of the eight drainage divisions as reported by the National Weather Service, as was March's precipitation. Water flow during the month of March was generally subnormal with only the Green, the Skagit, the Kettle, the Yakima, the Walla Walla, and Klickitat Rivers having above normal outflows for the month. Reservoir storage is generally subnormal for the irrigation reservoirs and only F. D. Roosevelt has an above normal amount of water in storage as of April 1 for the power reservoirs. With the expected outflow, all reservoirs should fill wih the spring runoff.

SNOW COVER

In the Upper Columbia Basin, the Pend Oreille River, as measured by 16 snow courses, has a snowpack that is 3 percent greater than last year, but 17 percent below average. The Kettle River, measured by 16 snow courses, has a snowpack that is 108 percent greater than last year and 8 percent less than average. The Okanogan, measured by 36 snow courses, has a snowpack that is 54 percent greater than last year and 17 percent less than average. The Yakima, measured by 23 snow courses, also has a snowpack that is 54 percent greater than last year, but in this basin the snowpack is 3 percent above averge. Along the Lower Columbia, the Klickitat is measured by one snow course and this course is 200 percent greater than measured last year at this time but still 31 percent below normal. In the Walla Walla Drainage, there are two snow courses measured in the Mill Creek area and these have a snowpack 6 percent below last year and 5 percent below average. Currently, we measure no snow courses in the Lewis River but a special effort is being organized at this time to start making some measurements at the old snow courses in the Lewis River Drainage to try and find out what effect the Mt. St. Helens' eruption will have on the sowpack in this area. This informtion will be reported next month. The best snow courses in the Puget Sound Drainage are in the White River Drainage where two snow courses were measured which indicate the snow pack to be 18 percent below normal. The poorest drainage is the Cedar where seven snow courses were measured but these had a snowpack that was 25 percent greater than last year but still 42 percent below normal. On the Olympic Peninsula, a snow course measured in the Dungeness Drainage area has a snowpack that is 69 percent of normal, but 23 percent below last year. The Elwha, measured by one snow course, has a snowpack that is only 40 percent of normal and 39 percent less than was measured last year at this time.

RESERVOIRS

The five irrigation reservoirs in the Yakima Drainage have a total capacity of 1,066,000 acre feet. The current storage in these reservoirs is 673,900 acre feet or 63 percent of capacity. The average storage for April 1 in the five reservoirs is 741,500 acre feet and the current storage is 91 percent of average. In the Okanogan Drainage, the two small reservoirs belonging to the Okanogan Irrigation District have a total capacity of 23,000 acre feet. The current storage in these reservoirs is 12,300 acre feet and the average is 14,700 acre feet. Current storage is, therefore, 53 percent of capacity and 84 percent of average. The three power reservoirs currently being reported - F. D. Roosevelt, Ross, and Chelan Lake - have water in storage that is 9 percent above normal for F. D. Roosevelt, 32 percent below normal for Ross, and 50 percent below for Chelan Lake.

PRECIPITATION

The National Weather Service reports that precipitation over the Columbia Basin portion of Washington and tributary areas was 93 percent of normal for the Columbia above Castlegar and the Pend Oreille - Spokane Drainage Divisions. Northeastern Washington, which takes in the Kettle, Sanpoil, and Lincoln County, was 10 percent above normal. Southeastern Washington was 29 percent above normal. In the central Cascade area, the Okanogan, or northcentral Washington was deficient by 37 percent and the Yakima-Wenatchee-Chelan area was deficient by 27 percent. On the west slopes of the Cascades, the northwestern area had precipitation that was 9 percent above normal but the southwestern slopes were 15 percent below average. The accumulation of precipitation from November through March shows that the rainfall for the Columbia above Castlegar Division was 11 percent below normal. The Pend Oreille-Spokane was 24 percent below normal; the Northeastern and Southeastern Drainage Divisions both 3 percent above normal; the central portion of the state, east of the Cascades, was 30 percent above normal while the Okanogan and northwestern slopes were both 8 percent below normal and the southwestern slopes 16 percent below average.

STREAMFLOW

Forecasts of streamflow, as reported above, are similar to those reported last month. The Columbia River, as measured at The Dalles, is expected to have an outflow 85,000,000 acre feet or 82 percent of normal, up 1 percent from last month. The Pend Oreille, as measured below Box Canyon, is 11,300,000 acre feet - up 2 percent from last month. The forecast for the Kettle River is up 8 percent from last month's forecast and the Okanogan is 5 percent better than last month. The Methow and Chelan are expected to have an outflow 1 percent greater than last month and the Wenatchee River - 2 percent less. In the Yakima Basin, the Parker forecast is considered the accumulation of all the high elevation outflows and this forecast is increased 2 percent from 1,950,000 to 2,000,000 acre feet. The forecast of the Lewis River has been increased 4 percent and we now expect 1,250,000 acre feet outflow for the Lewis at Ariel and the Cowlitz River at Castlerock has been dropped 4 percentage points, to 2,470,000 acre feet. In spite of the poor snow in the Dungeness River area, the forecast has been increased 7 percent to 140,000 acre feet and the Skagit River has been increased 3 percentage points to 2,000,000 acre feet. Numerical forecasts can be found on the following pages.

STREAMFLOW FORECASTS - FEBRUARY, 1980

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. These forecasts are made as a product of the cooperative efforts of the Soil Conservation Service and the National Weather Service. Streamflow figures for 1979 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1980	Seasonal Streamflow in Thousands of Acre-Feet: % 15-yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
COLUMBIA BASIN							
COLUMBIA RIVER SYSTEM							
Columbia River	40600	89	Apr-Sept	34484	44008	31562	45502
at Birchbank 1/	32400	89	Apr-July	27181	34030	23812	36353
	23200	89	Apr-June	19661	24082	18026	26194
Columbia River	56500	83	Apr-Sept	52769	66868	41056	68012
at Grand Coulee 1/	47500	83	Apr-July	44096	54559	32018	57035
	36700	83	Apr-June	35138	41585	25623	44273
Columbia River	62900	85	Apr-Sept	55298	72892	43415	73935
bl. Rock Island Dam 1/	53300	85	Apr-July	46700	60163	34253	62462
	41200	85	Apr-June	37453	46242	27563	48489
Columbia River	85000	82	Apr-Sept	76843	101055	54092	103493
at The Dalles, OR 1/	72900	82	Apr-July	65758	84815	42940	88519
	58400	82	Apr-June	55016	67353	35524	71237
PEND OREILLE RIVER SYSTEM							
Pend Oreille River	11300	72	Apr-Sept	11639	15581	4130	15950
bl. Box Canyon	10400	73	Apr-July	11095	14080	2715	14690
	8600	73	Apr-June	10217	11750	2261	11760
KETTLE RIVER SYSTEM							
Kettle River	1710	93	Apr-Sept	1259	2056	1145	1846
nr. Laurier	1660	95	Apr-July	1216	1877	1105	1754
	1490	94	Apr-June	1132	1686	1037	1588
Colville River	125	93	Apr-Sept	63	138	26	134
at Kettle Falls	115	93	Apr-July	58	125	22	123
	105	91	Apr-June	55	117	20	115

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Seasonal Streamflow in Thousands of Acre-Feet: Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
SPOKANE RIVER SYSTEM **							
Spokane River	2000	67	Apr-Sept	2809	2427	-	2910
at Post Falls, ID 2/	1830	67	Apr-July	2757	2330	-	2733
	1740	67	Apr-June	2678	2119	-	2600
OKANOGAN RIVER SYSTEM							
Similkameen River	1290	85	Apr-Sept	872	1505	645	1517
nr. Nighthawk	1200	85	Apr-July	812	1365	605	1417
	1025	86	Apr-June	728	1170	547	1192
Okanogan River	1450	84	Apr-Sept	909	1690	708	1719
nr. Tonasket	1320	84	Apr-July	825	1500	644	1565
	1110	85	Apr-June	730	1286	583	1305
METHOW RIVER SYSTEM							
Methow River	925	91	Apr-Sept		1174	280	1011
nr. Pateros	850	91	Apr-July		1058	246	937
	720	91	Apr-June		876	217	791
CHELAN RIVER SYSTEM							
Chelan River	1250	101	Apr-Sept	753	1335	599	1237
at Chelan 3/	1125	104	Apr-July	662	1164	481	1080
	885	106	Apr-June	553	906	403	834
Stehekin River	875	99	Apr-Sept		888	494	883
at Stehekin	760	102	Apr-July		750	382	744
	575	103	Apr-June		563	311	557
Entiat	235	98	Apr-Sept		295	95	241
nr. Ardenvoir	215	99	Apr-July		268	81	218
	180	103	Apr-June		275	70	174
WENATCHEE RIVER SYSTEM							
Wenatchee River	1165	90	Apr-Sept	893	1311	633	1297
at Plain	1070	92	Apr-July	812	1171	542	1156
	880	97	Apr-June	704	945	479	903
Wenatchee River	1590	90	Apr-Sept	1165	1755	839	1767
at Peshastin	1450	91	Apr-July	1074	1576	730	1587
	1180	94	Apr-June	938	1275	653	1250
Stemilt Basin nr. Wenatchee	133	96	May-Sept	-	-	-	138*
Icicle Creek	310	84	Apr-Sept	-	-	-	371
nr. Leavenworth	290	85	Apr-July	-	-	-	342
	240	86	Apr-June	-	-	-	279

* Thousands of Miners' Inches.

** Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Forecast period	Seasonal Streamflow in Thousands of Acre-Feet 1979	1978	1977	15-Yr. Average 63-77
YAKIMA RIVER SYSTEM							
Yakima River	125	86	Apr-Sept	124	114	78	145
nr. Martin 4/	115	86	Apr-July	114	101	67	133
	105	92	Apr-June	101	93	67	114
Yakima River	875	90	Apr-Sept	714	808	493	975
at Cle Elum 5/	795	90	Apr-July	683	696	416	883
	675	90	Apr-June	599	614	379	751
Yakima River	2000	92	Apr-Sept	1388	1977	802	2168
nr. Parker 6/	1800	92	Apr-July	1287	1691	657	1954
	1575	93	Apr-June	1179	1487	611	1693
Kachess River	115	91	Apr-Sept	101	98	61	126
nr. Easton 7/	110	92	Apr-July	95	91	55	119
	95	91	Apr-June	88	84	53	104
Cle Elum River	450	95	Apr-Sept	348	417	250	479
nr. Roslyn 8/	410	94	Apr-July	326	372	215	435
	340	95	Apr-June	292	318	193	358
Bumping River	150	103	Apr-Sept	99	119	63	146
nr. Nile 9/	140	105	Apr-July	92	108	55	133
	110	104	Apr-June	82	93	51	106
American River	135	106	Apr-Sept		111	50	127
nr. Nile	125	108	Apr-July		93	44	116
	100	105	Apr-June		84	39	95
Tieton River	260	103	Apr-Sept	179	228	128	252
at Tieton Dam 10/	215	101	Apr-July	148	188	93	212
	170	101	Apr-June	120	148	76	168
Naches River	835	93	Apr-Sept	574	721	330	894
nr. Naches 11/	760	94	Apr-July	528	657	270	807
	650	96	Apr-June	478	564	250	680
Ahtanum Creek	50	106	Apr-Sept		48	8	47
nr. Tampico 12/	45	107	Apr-July		43	7	42
	41	111	Apr-June		37	6	37

4/ Observed flow corrected for storage in Lake Keechelus.
5/ Observed flow corrected for storage in Keechelus, Kachess, and Cle Elum Lakes and diversion by Kittitas Canal.
6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation, and Sunnyside Canals.
7/ Observed flow corrected for storage in Lake Kachess.
8/ Observed flow corrected for storage in Lake Cle Elum.
9/ Observed flow corrected for storage in Bumping Lake.
10/ Observed flow corrected for storage in Rimrock Lake.
11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals, and City of Yakima.
12/ Observed flow of North and South Forks (Combined).

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
			Seasonal Streamflow in Thousands of Acre-Feet				
LOWER COLUMBIA RIVER SYSTEM							
Mill Creek	14.74	84	Apr-Sept		12.11	4.47	17.50
at Walla Walla	14.50	84	Apr-July		11.99	4.29	17.33
	14.37	84	Apr-June		11.91	4.25	17.15
Lewis River	1250	96	Apr-Sept	974	904	1030	1301
at Ariel 13/	1060	94	Apr-July	839	610	832	1131
	815	92	Apr-June	755	515	763	995
Cowlitz River	1860	87	Apr-Sept		1635	1570	2125
bl. Mayfield Dam	1600	86	Apr-July		1348	1293	1853
	1370	88	Apr-June		1150	1168	1552
Cowlitz River	2470	89	Apr-Sept	1985	2232	2157	2767
at Castle Rock 14/	2100	87	Apr-July	1746	1835	1766	2401
	1830	90	Apr-June	1537	1581	1601	2028
OLYMPIC PENINSULA							
DUNGENESS RIVER SYSTEM							
Dungeness River	140	88	Apr-Sept		152	97	160
nr. Sequim	115	90	Apr-July		115	75	130
	85	88	Apr-June		83	61	96
PUGET SOUND							
SKAGIT RIVER SYSTEM							
Skagit River	1840	83	Apr-Sept	1523	1903	643	2212
at Newhalem 15/	2000	85	Apr-Sept	1648	2115	728	2356
	1650	84	Apr-July	1359	1690	535	1972
	1175	79	Apr-June	1102	1285	429	1485
GREEN RIVER SYSTEM							
Green River							
bl. Howard Hanson Dam 16/	275	78	Apr-Sept	228	199	222	316
CEDAR RIVER SYSTEM							
Cedar River nr. Cedar Falls	70	76	Apr-Sept		59	55	93
ELWHA RIVER SYSTEM							
Elwha River	420	76	Apr-Sept		458	370	553
nr. Port Angeles	330	73	Apr-July		351	295	454

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.
14/ Observed flow corrected for storage in Mayfield Reservoir.
15/ Observed flow corrected for storage in Diablo, Ross and Gorge Reservoirs.
16/ Observed flow corrected for storage in Howard Hanson Dam.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about April 1, 1980, as percent of the same date in 1979 and 1978 and average of record.

Tributary Basin	No. of Courses Average	1980 Snow Water Expressed as percent of 1979	1978	1963-77 Avg.
UPPER COLUMBIA BASIN				
Pend Oreille	16	103	113	83
Kettle	16	208	93	92
Colville	4	98	118	93
Spokane	15	74	89	63
Sanpoil	1	133	94	76
Okanogan	36	154	90	83
Methow	6	362	84	78
Chelan	4	100	82	81
Entiat	9	124	75	78
Wenatchee	10	103	99	84
Yakima	23	154	126	103
Ahtanum	2	180	160	126
LOWER COLUMBIA				
Asotin	1	95	118	83
Mill Creek	2	94	369	95
Klickitat	1	300	-	69
Cowlitz	1	134	135	90
PUGET SOUND				
White	2	118	108	82
Green	8	94	166	71
Cedar	7	125	402	58
Snoqualmie	3	91	168	68
Skykomish	3	101	126	76
Skagit	16	96	114	64
Baker	8	-	89	61
Nooksack	5	102	151	71
OLYMPIC PENINSULA				
Morse	1	93	102	64
Elwha	1	61	90	40
Dungeness	1	77	135	69

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured April 1 1980	1979	1978	Normal*
		COLUMBIA				
Spokane	Coeur d'Alene Lake	225.1	87.1	152.1	277.8	121.6
Columbia	Franklin D. Roosevelt Lake	5232.0	1374.8	1879.4	1842.8	1260.0
Columbia	Banks Lake	714.9	688.2	650.7	682.9	590.8
Okanogan	Conconully Reservoir	13.0	4.0	10.6	4.2	7.2
Okanogan	Salmon Lake	10.5	8.3	10.5	6.2	7.5
Chelan	Lake Chelan	676.1	92.0	131.6	156.0	184.6
		YAKIMA				
Yakima	Keechelus Lake	157.8	94.4	101.9	158.0	108.8
Kachess	Kachess Lake	239.0	92.2	207.9	215.9	189.8
Cle Elum	Lake Cle Elum	436.9	363.4	128.4	315.0	292.1
Bumping	Bumping Lake	33.7	27.4	11.5	24.4	8.6
Tieton	Rimrock Lake	198.0	96.5	154.4	169.3	142.2
		PUGET SOUND				
Skagit	Ross Reservoir	1404.1	511.3	688.3	729.5	754.4
Skagit	Diablo Reservoir	90.6	87.1	88.4	86.8	85.7
Skagit	Gorge Reservoir	9.8	7.8	8.0	8.3	8.0

1/ Based on Active Storage

* 15-yr. Average 1963-1977

SOIL MOISTURE - APRIL, 1980

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content Inches as of April 1 1980	1979	1978
OKANOGAN							
Salmon Meadows	19A2M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	Late	-	5.1
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	10.3	9.5	9.0
Helmers	17C2M	4400	48	12.0	8.9	9.7	9.5
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	12.8	12.5	7.1

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content (Inches) as of Oct. 1 1979	1978	1977
OKANOGAN							
Salmon Meadows	19A02M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	3.1	3.7	3.2
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	6.7	5.9	-
Helmers	17C2M	4400	48	12.0	8.1	8.2	-
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	5.1	10.3	6.6

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL Sept-Oct Observed	1979 2/ Departure	WINTER Nov 1979 - Jan 1980 2/ Observed	Departure
Columbia in Canada	4.44	-0.58	13.78	-1.73
Pend Oreille - Spokane	3.23	-0.81	13.28	-4.27
Northeastern Washington	2.53	+0.05	9.70	+0.30
Southeastern Washington	2.53	+0.02	10.79	+0.36
Central Washington	1.55	+0.58	6.84	+1.56
North Central Washington	2.22	+0.63	6.05	-0.49
Northwest Slope Cascades	10.68	-2.53	51.07	-4.32
Southwest Slope Cascades	9.66	+0.98	35.13	-6.51

Northeastern Washington - Lower Spokane, Colville, Sanpoil, and Lower Kettle Drainages.

Southeastern Washington - Touchet, Tucannon, and Palouse Drainages.

Central Washington - Yakima, Wenatchee, and Chelan Drainages.

North Central Washington - Methow and Okanogan Drainages

Northwest Slope Cascades - Puget Sound Drainages.

Southwest Slope Cascades - Lower Columbia Drainages.

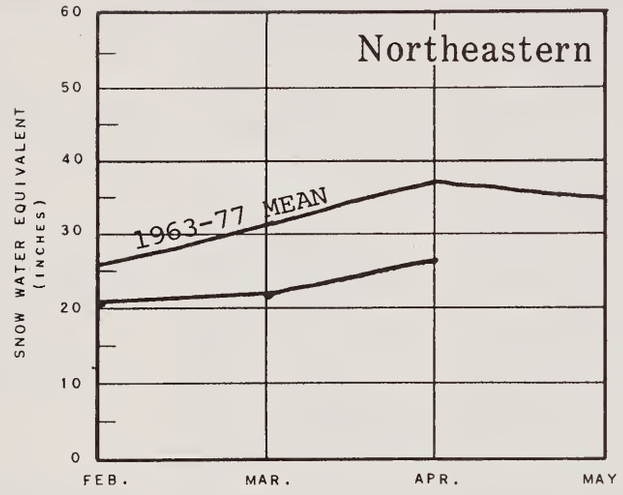
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorlogical Services of Canada and the National Weather Service.

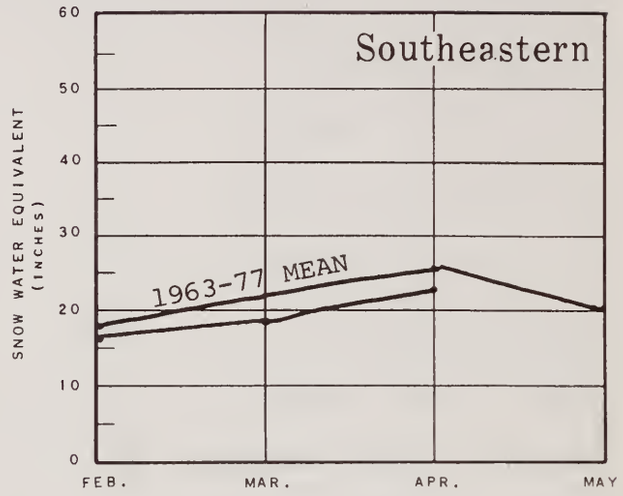
2/ - Departure from 15-year (1958-72) drainage division average.

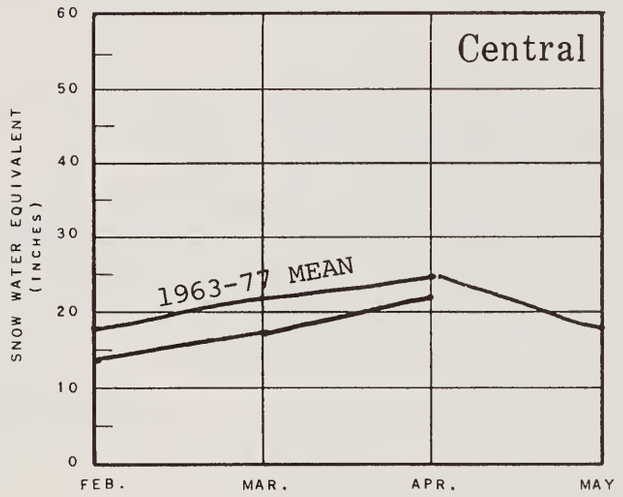
WASHINGTON SNOW COVER

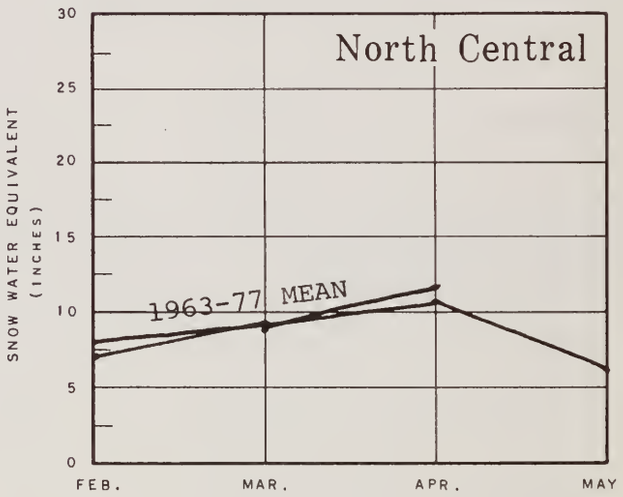
1980

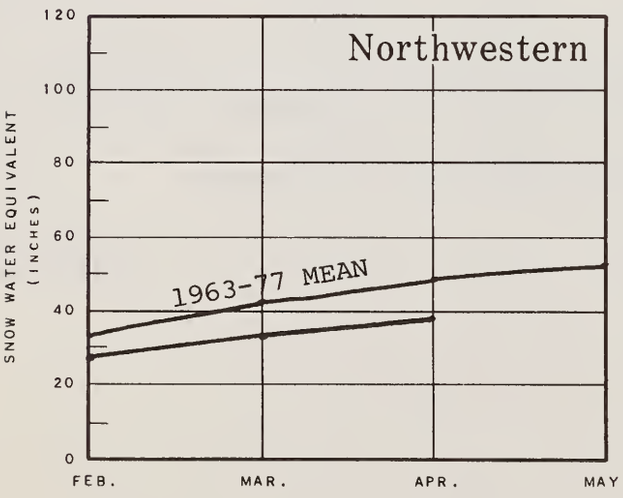
DRAINAGE AREAS

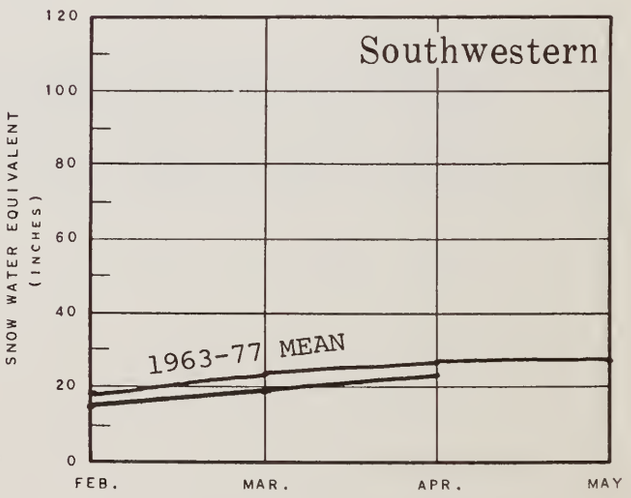










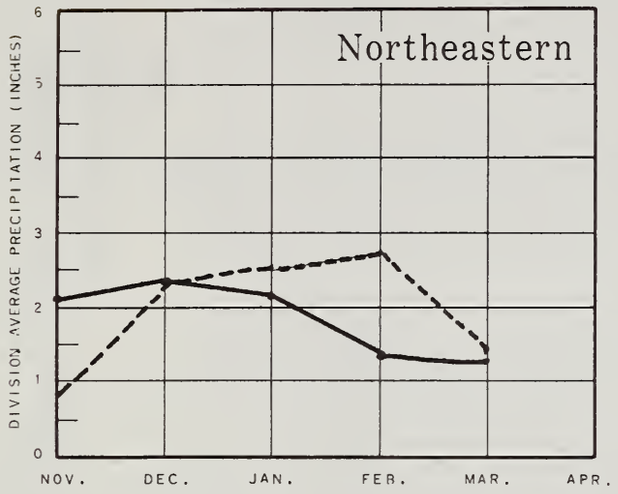


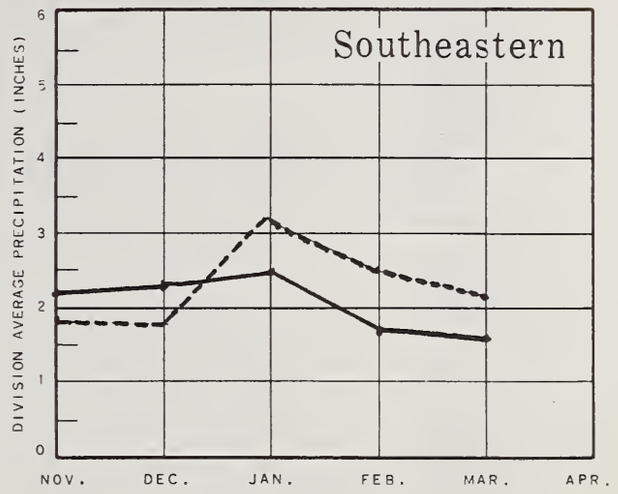
Selected Snow Survey Courses by Soil Conservation Service

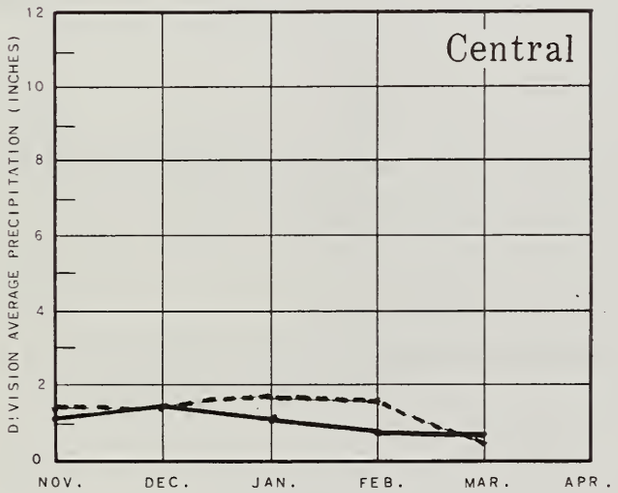
WASHINGTON VALLEY PRECIPITATION

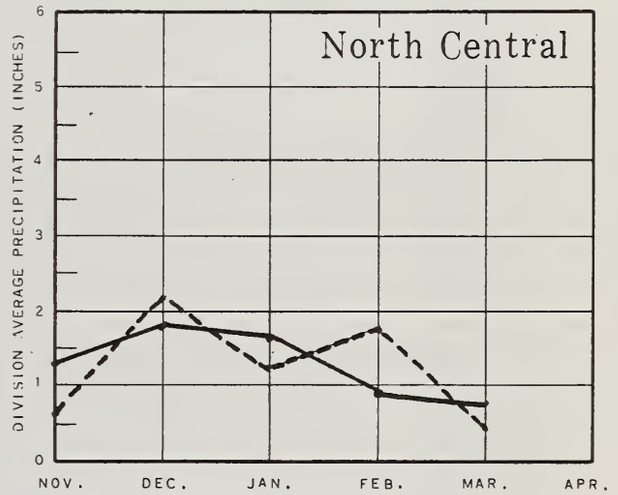
1980

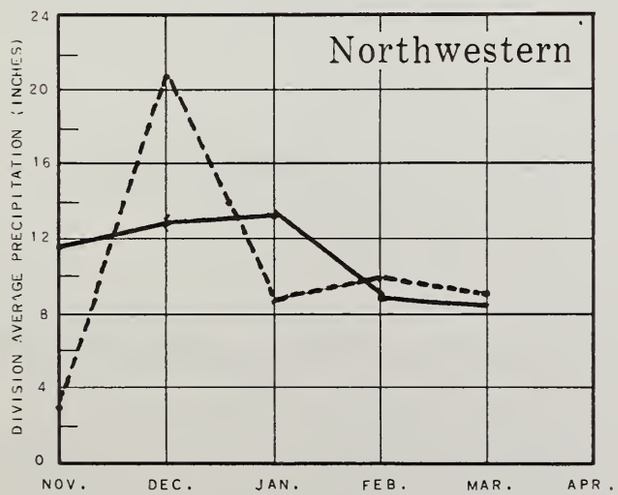
DRAINAGE AREAS

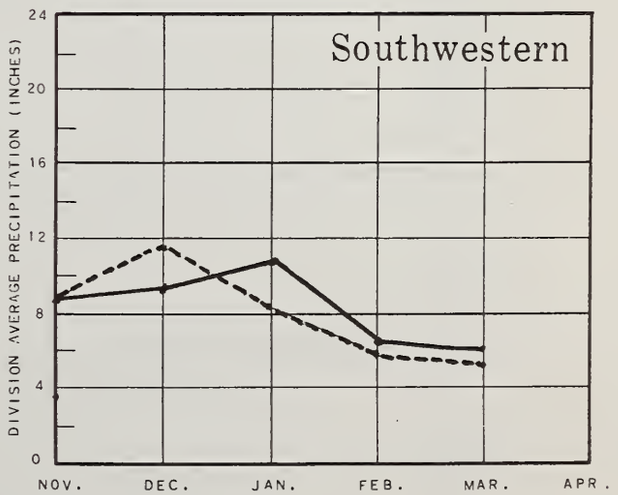












Average: ——
1980 : - - - - -

Preliminary Analysis by National Weather Service

M7-L-22028H

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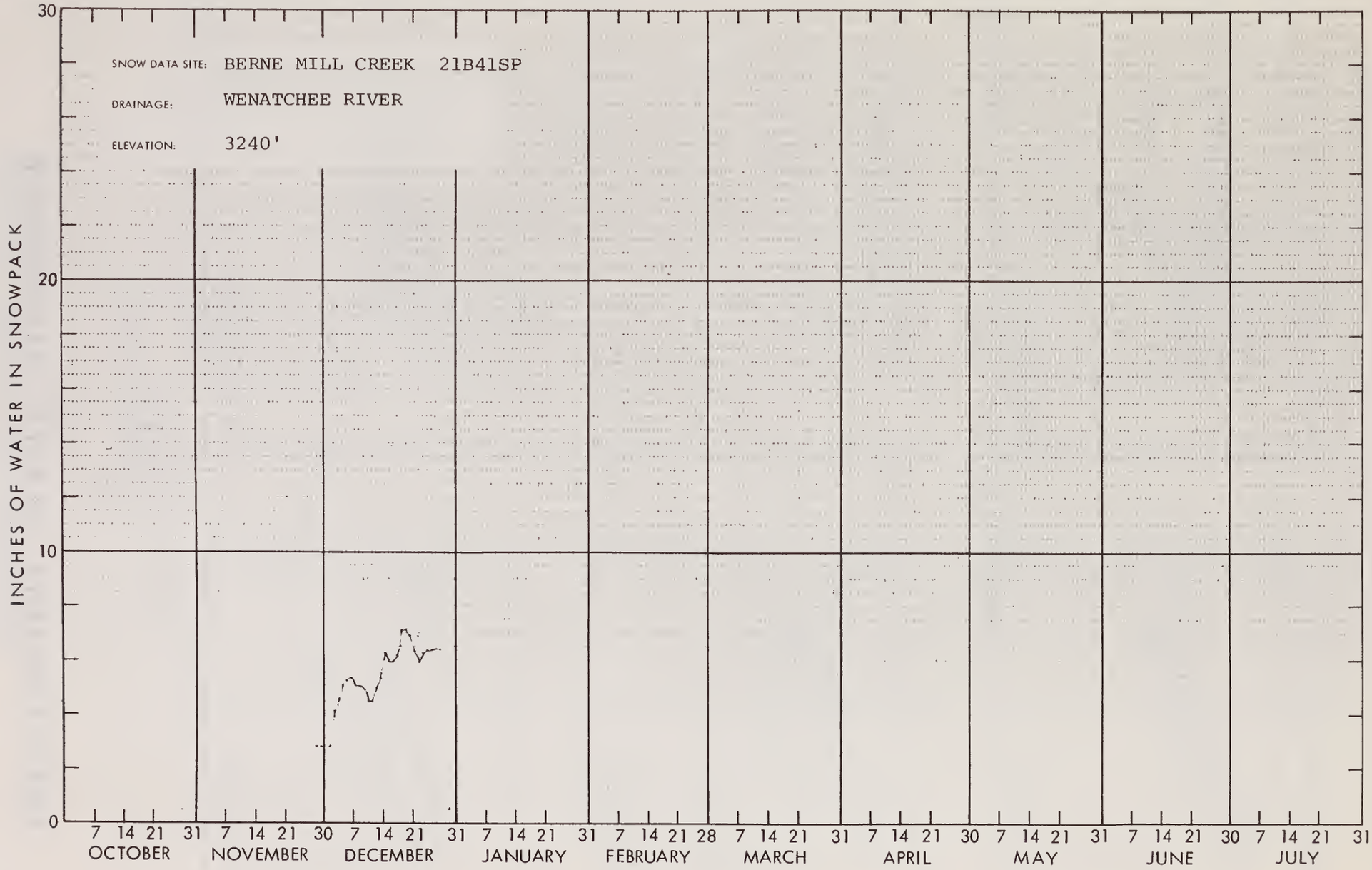
SNOW DATA SITE: BERNE MILL CREEK 21B41SP
DRAINAGE: WENATCHEE RIVER
ELEVATION: 3240'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
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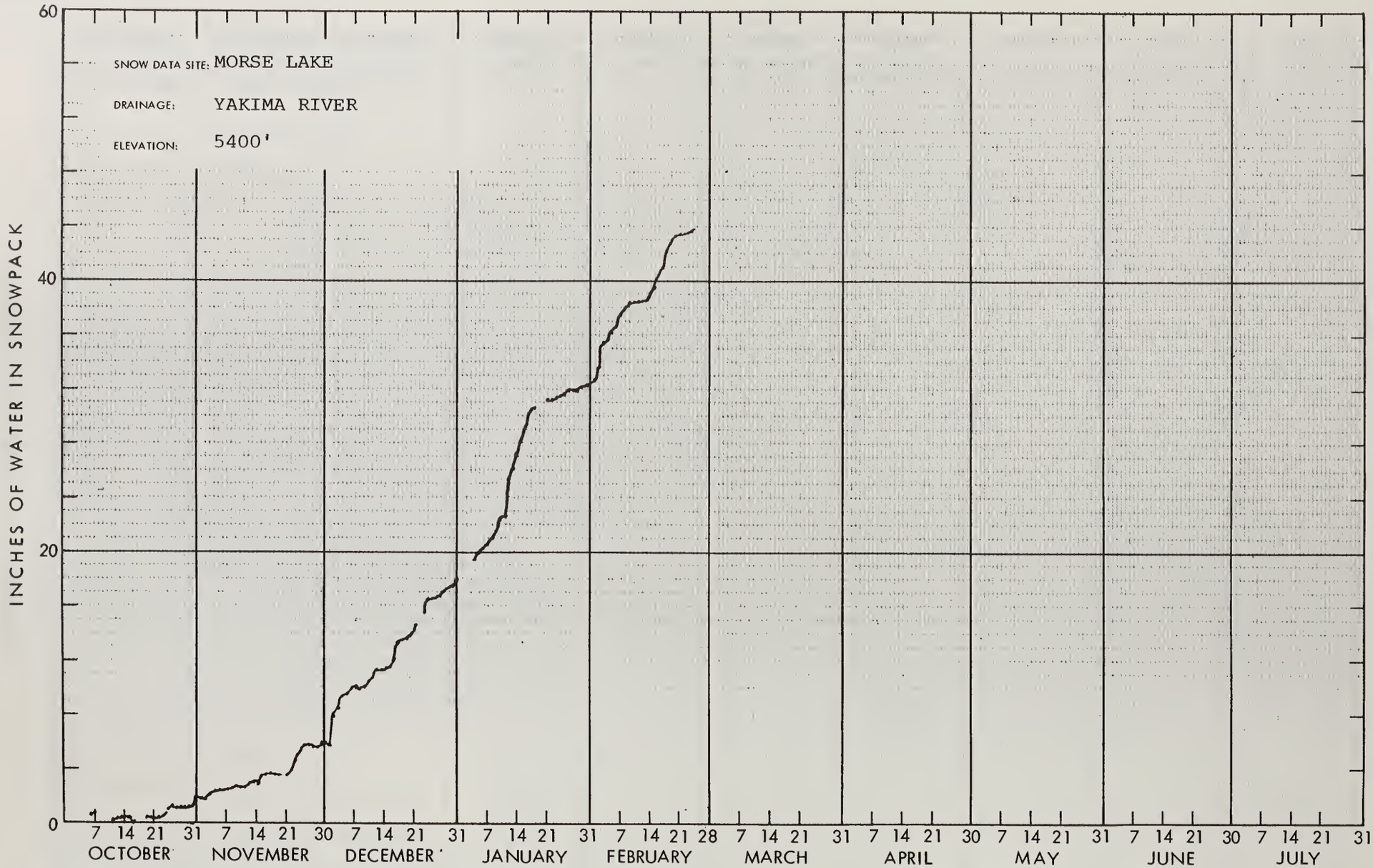
MARCH
APRIL
MAY
JUNE
JULY

WSFB-X13C


SNOW DATA SITE: MORSE LAKE
DRAINAGE: YAKIMA RIVER
ELEVATION: 5400'
INCHES OF WATER IN SNOWPACK
60
40
20
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

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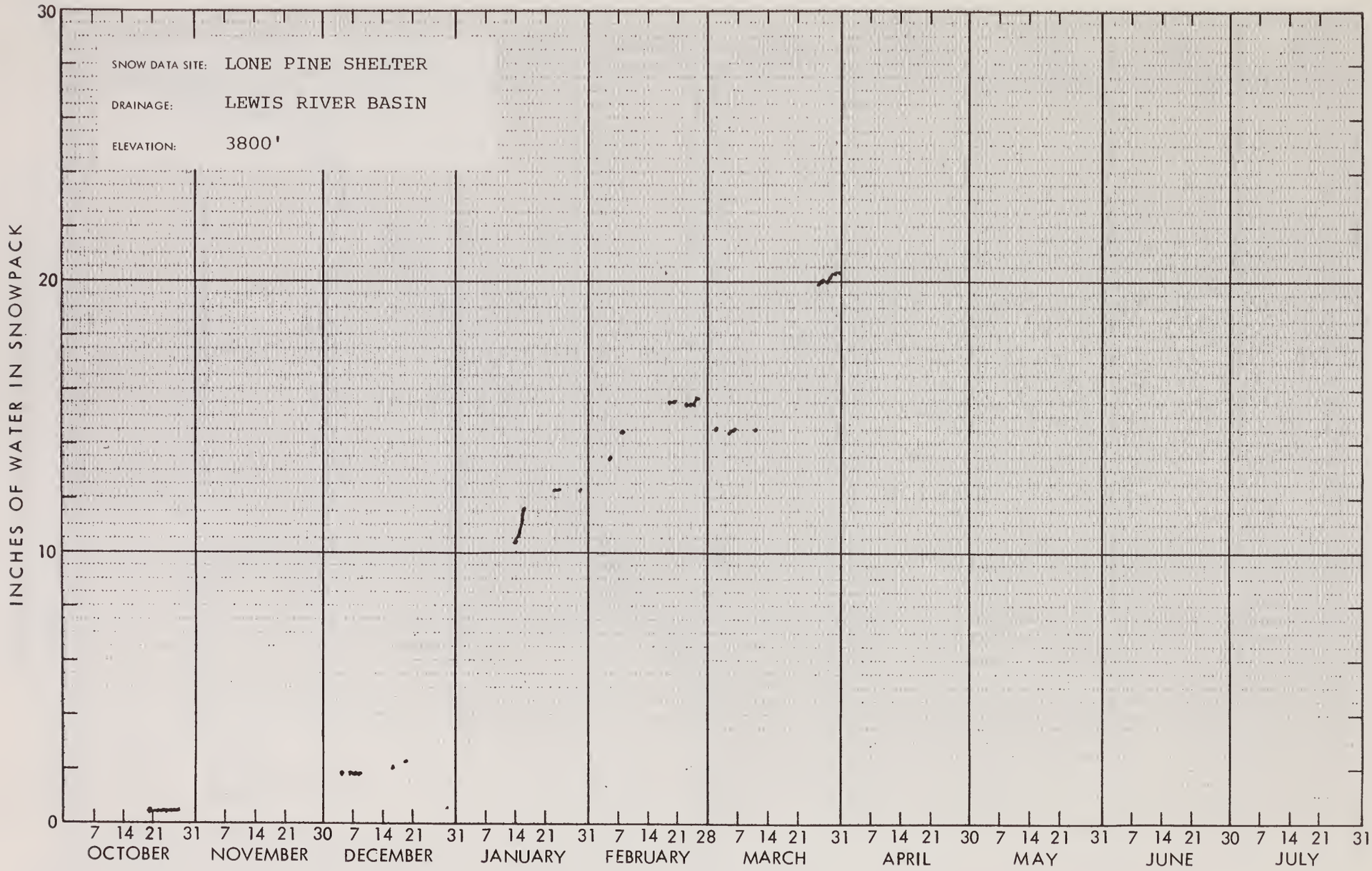
SNOW DATA SITE: LONE PINE SHELTER
DRAINAGE: LEWIS RIVER BASIN
ELEVATION: 3800'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
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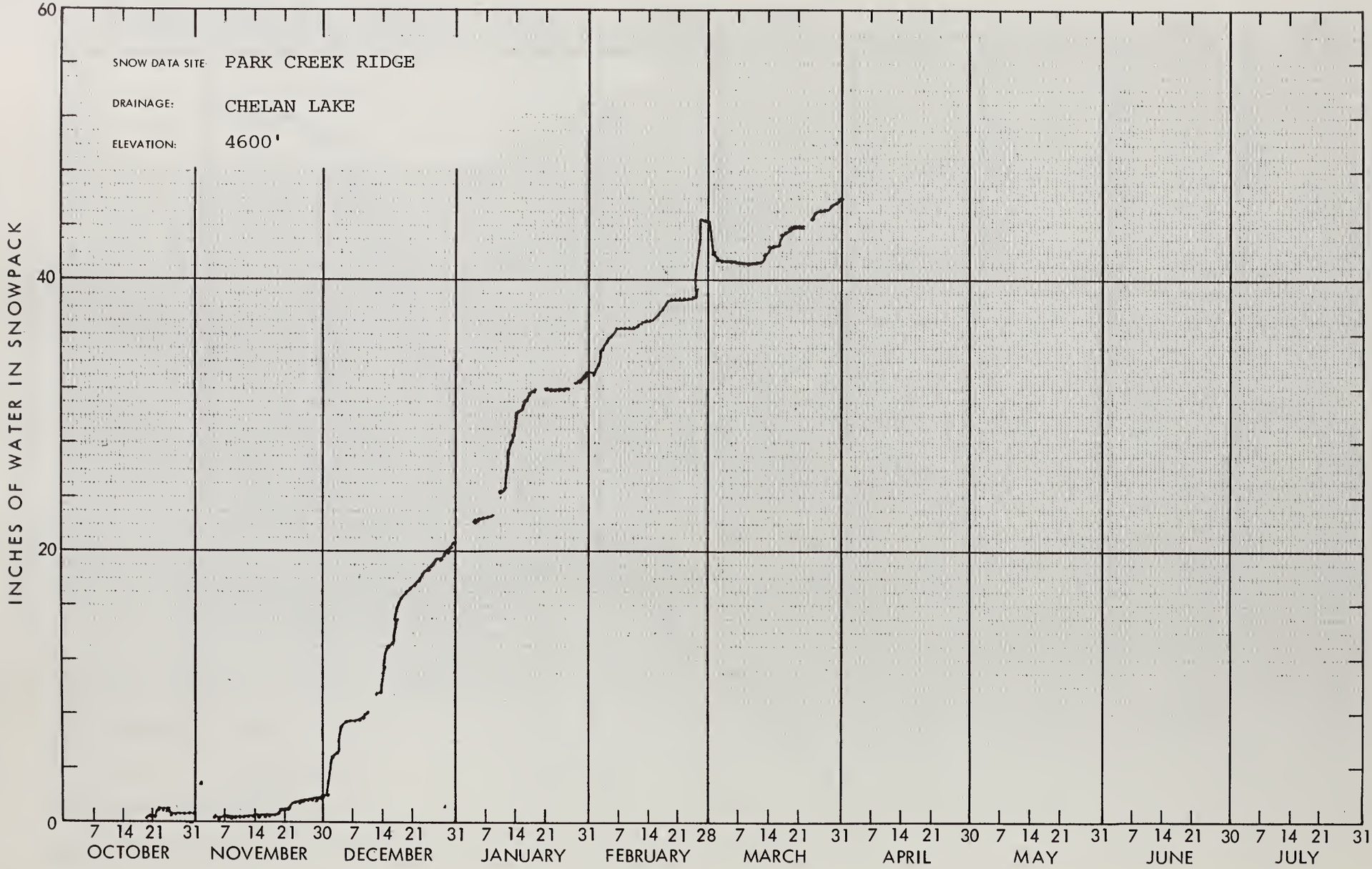
SNOW DATA SITE PARK CREEK RIDGE
DRAINAGE: CHELAN LAKE
ELEVATION: 4600'
INCHES OF WATER IN SNOWPACK
60
40
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7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
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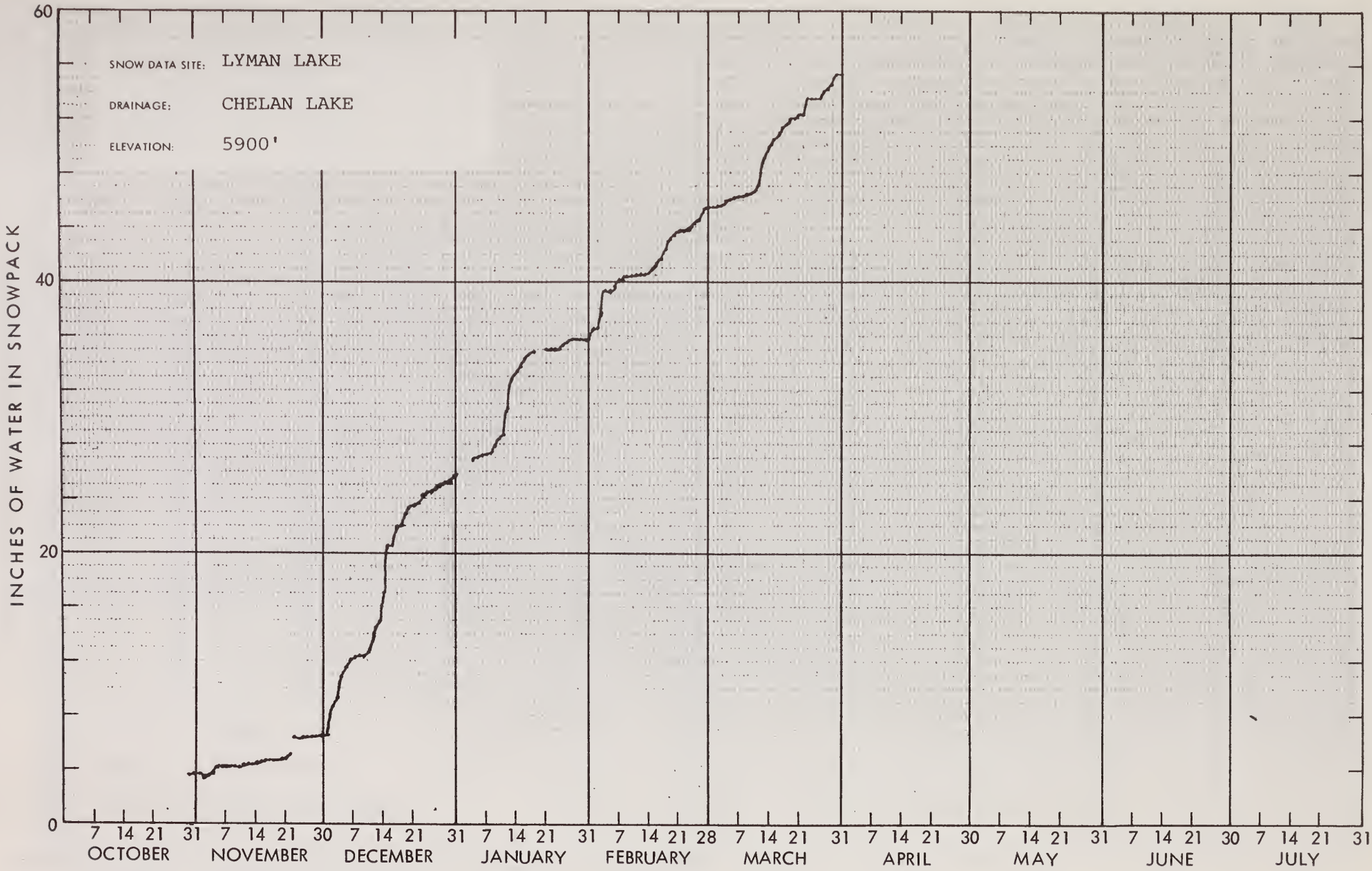
SNOW DATA SITE: LYMAN LAKE
DRAINAGE: CHELAN LAKE
ELEVATION: 5900'
INCHES OF WATER IN SNOWPACK
60
40
20
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
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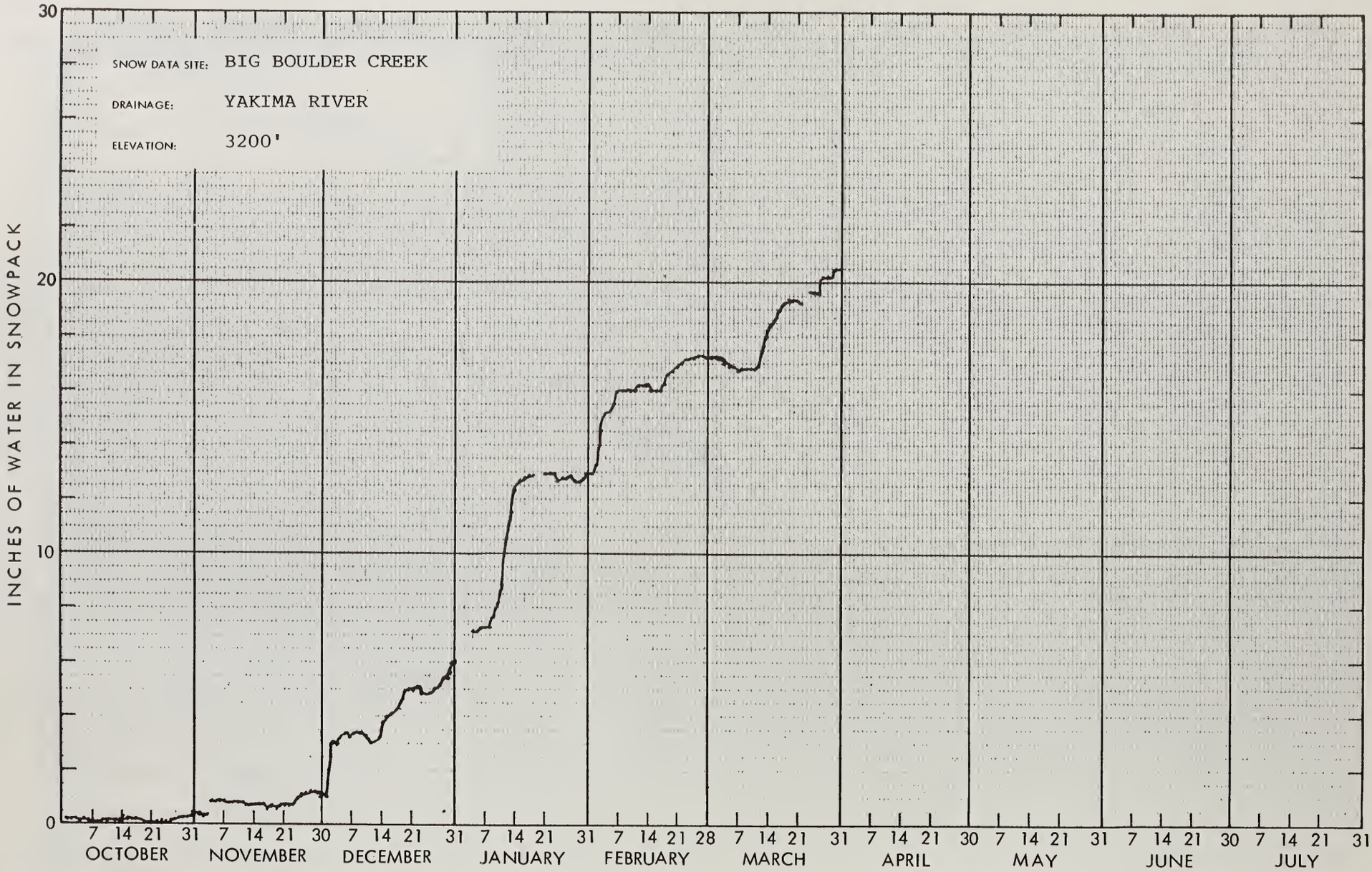
SNOW DATA SITE: BIG BOULDER CREEK
DRAINAGE: YAKIMA RIVER
ELEVATION: 3200'
INCHES OF WATER IN SNOWPACK
30
20
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0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
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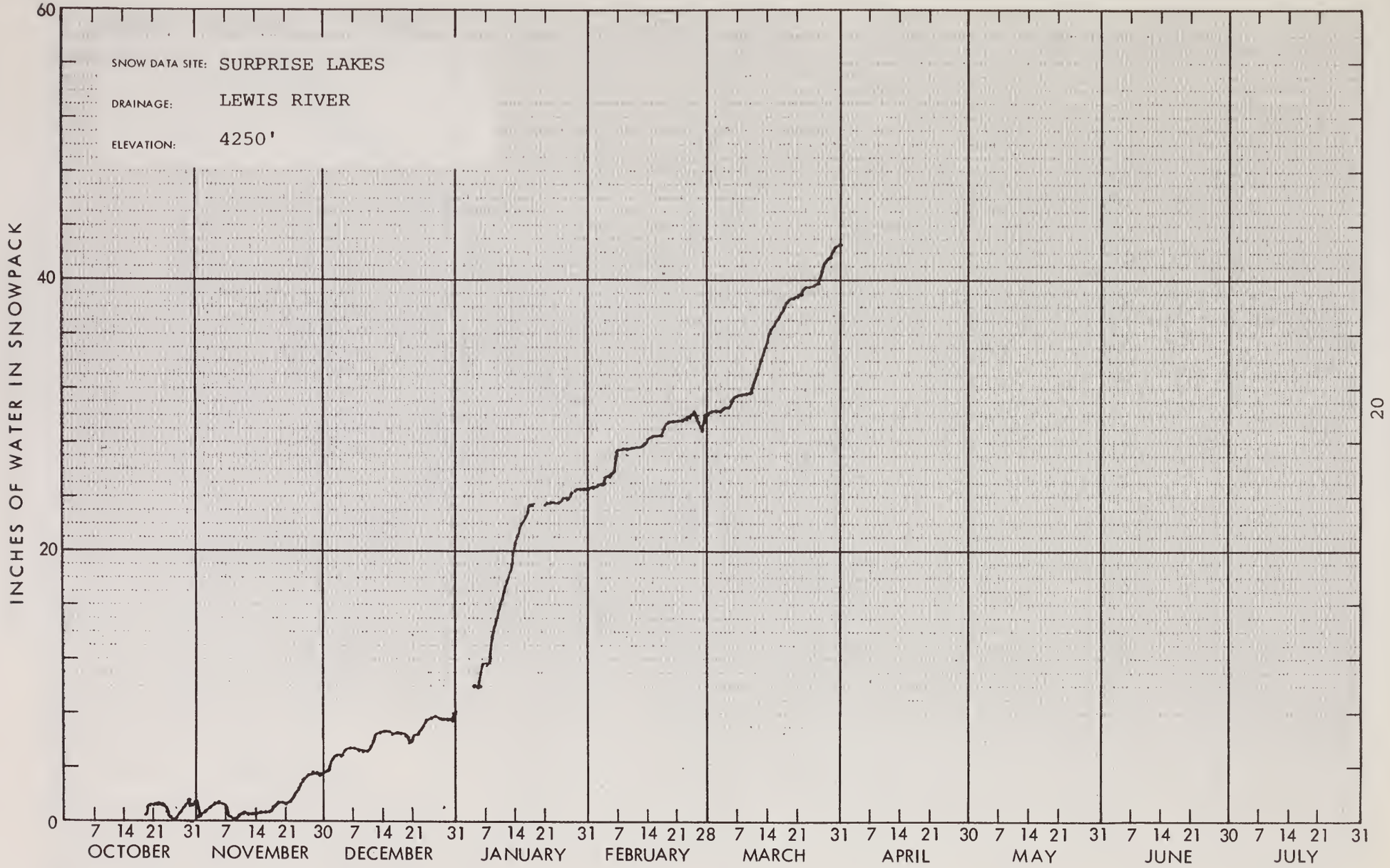
SNOW DATA SITE: SURPRISE LAKES
DRAINAGE: LEWIS RIVER
ELEVATION: 4250'
INCHES OF WATER IN SNOWPACK
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40
20
0
20
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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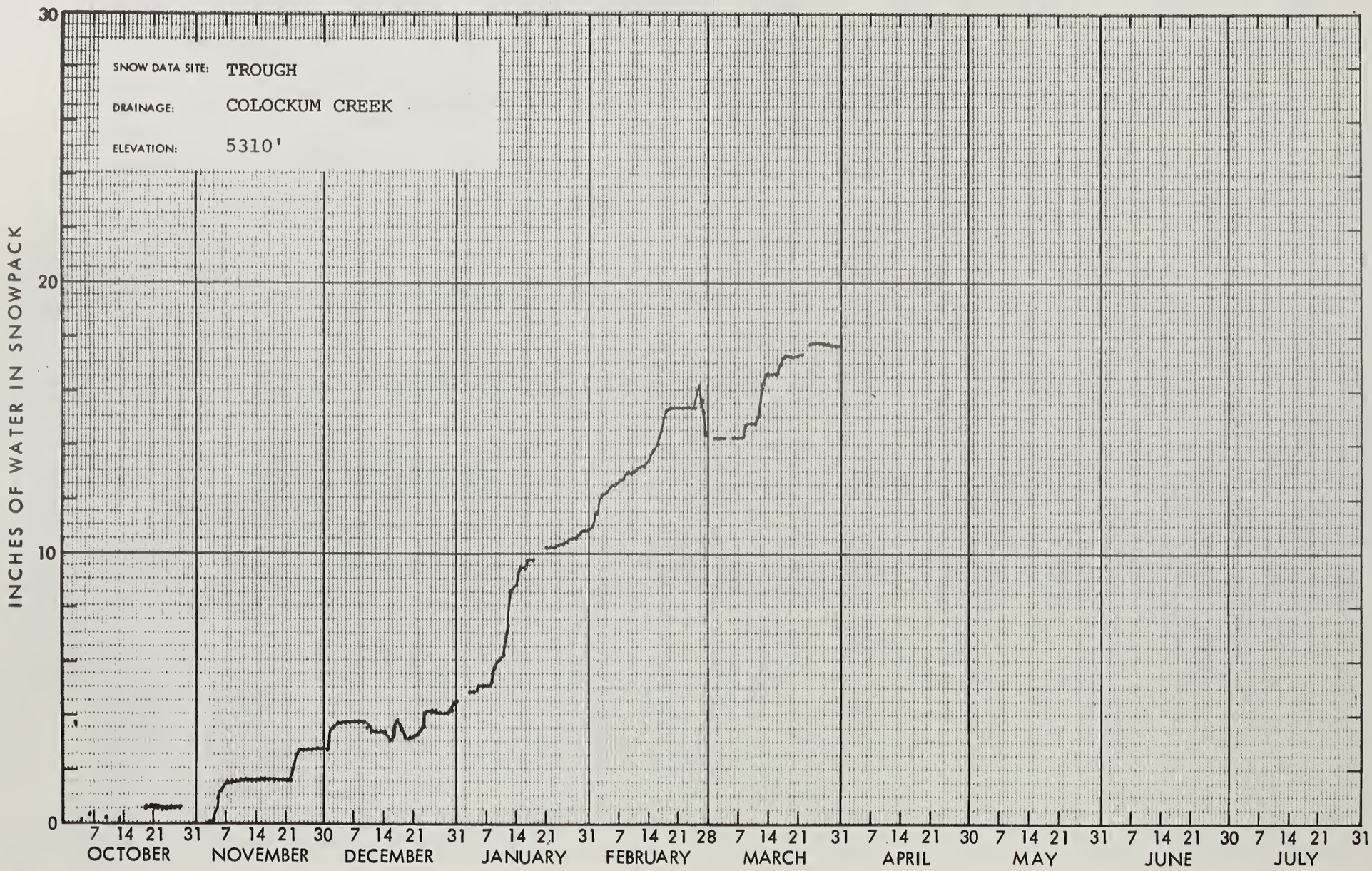
SNOW DATA SITE: TROUGH
DRAINAGE: COLOCKUM CREEK
ELEVATION: 5310'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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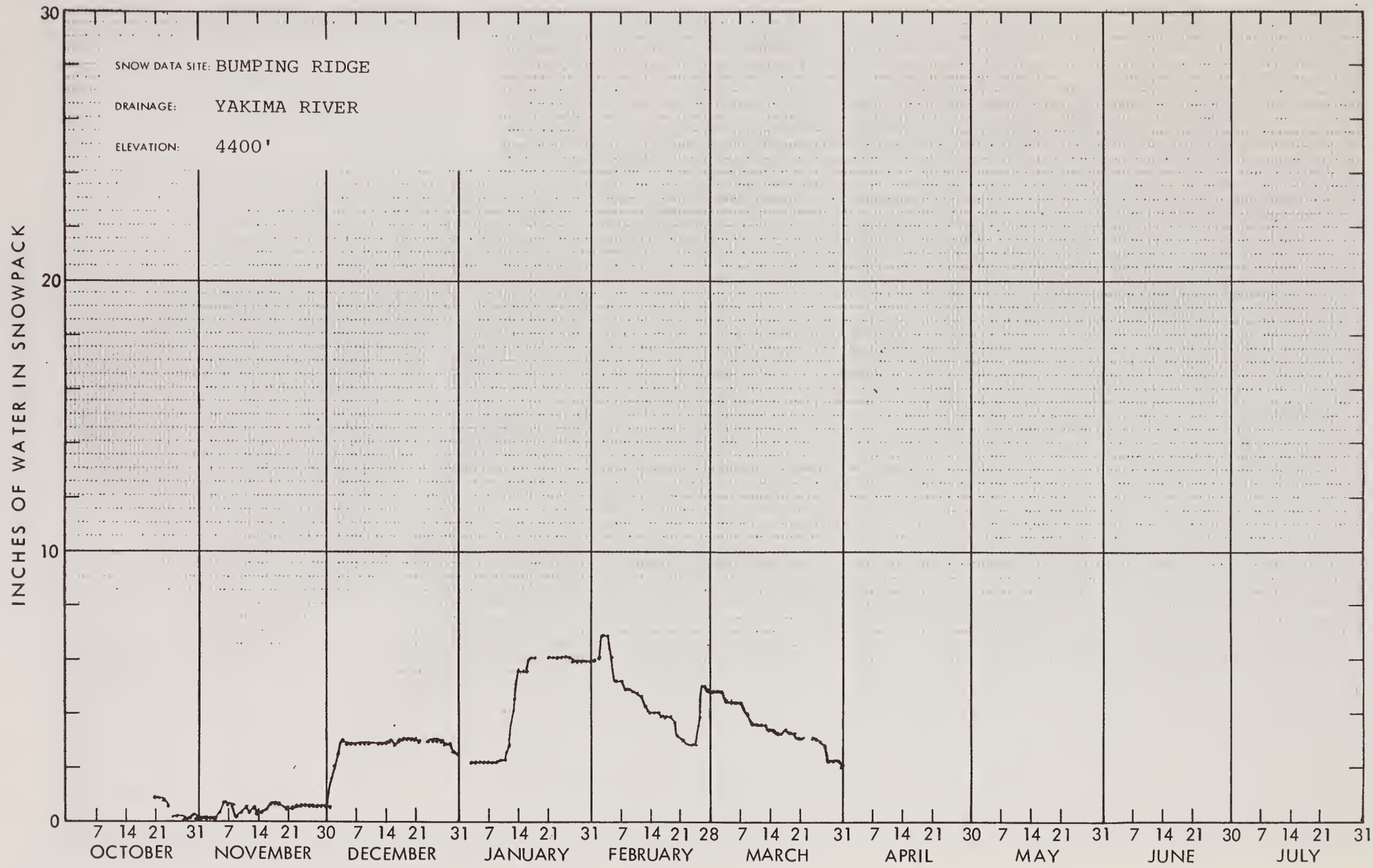
SNOW DATA SITE: BUMPING RIDGE
DRAINAGE: YAKIMA RIVER
ELEVATION: 4400'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
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JULY

SNOW DATA TO APRIL 1, 1980 - APPENDIX 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
						Water Content (Inches)	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average #
UPPER COLUMBIA DRAINAGE							
PEND OREILLE RIVER							
Baree Creek	15B11	5500	3/31	97	37.5	41.9	50.3
Baree Midway	15B16	4600	4/1	87	32.4	35.7	38.8
Baree Trail	15B15	3800	4/1	26	7.8	7.9	9.8
Benton Meadow	16A02	2344	3/27	11	4.6	5.0	5.0
Benton Spring	16A03	4900	3/27	48	15.9	16.6	20.2
Boyer Mountain	17A02	5250	3/27	62	21.5	20.4	27.2
Brush Creek Timber	14A13	5000	4/2	32	8.2	10.5	10.6
Bunchgrass Meadow	17A01	5000	3/28	78	28.6	22.6	30.7
Chewelah	17A04	4923	3/29	44	13.3	17.8	17.0
Heart Lake Trail	14C10	4800	3/31	57	18.4	25.4	23.8
Hoodoo Basin	15C10	6000	3/31	120	47.2	46.1	53.6
Hoodoo Creek	15C01	5900	3/31	111	42.8	45.1	49.9
Lookout	15B02	5250	3/12	81	24.8	28.8	38.6
			3/31	82	26.4	32.4	37.1
Mosquito Ridge	16A04A	5100	3/28	79	28.2	31.0	40.2
Nelson	19-Can	3050	3/27	44	15.3	14.2	15.6*
Schweitzer Bowl	16A06	4500	3/26	65	25.1	22.7	30.9
Schweitzer Ridge	16A05	6100	3/26	123	52.4	32.0	47.8
Smith Creek	16A01	4800	3/26	105	39.6	31.4	48.8
Winchester Creek	17A03	2970	3/27	30	8.7	7.2	11.2
KETTLE RIVER							
Barnes Creek	90-Can	5300	3/27	55	15.0	18.3	21.0*
Big White Mtn.	154-Can	5500	4/1	59	17.0	15.9	20.5*
Bluejoint Mtn.	244-Can	7500	3/27	76	25.3	19.3	20.8*
Boulder Road	18A02	1450	3/24	Trace	0.0	0.0	2.4
Butte Creek	18A03	4070	3/24	32	9.4	5.7	9.5
Cabin Creek	18A08	3170	3/24	22	7.7	4.8	8.3
Carmi	126-Can	4100	4/1	19	4.7	4.4	6.6*
Farron # 1	17-Can	4000	3/31	41	14.2	8.7	13.3*
Farron # 2	243-Can	4000	3/31	45	15.0	9.0	12.8*
Goat Creek	18A04	3595	3/24	18	6.5	0.8	5.3
Graystoke Lake	5-Can	5950	3/28	43	10.9	12.8	20.4*
Monashee Pass	48A-Can	4500	3/27	34	9.6	12.7	14.1*
Old Glory Mountain	42-Can	7000	3/29	87	27.6	17.2	28.5*
Snow Caps Creek	18A05	2150	3/24	Trace	0.0	0.0	2.2
Snow Caps Trail	18A06	2720	3/24	15	5.4	1.0	4.9
Summit G.S.	18A07	4600	3/24	24	7.4	4.7	8.5
Trapping Creek Lower	166-Can	3050	4/1	10	2.9	0.9	3.7*
Trapping Creek Upper	165-Can	4450	4/1	31	8.7	9.3	10.1*

\# Average based on 1963-77 average

* Average for years of record

USDA-SCS-PORTLAND, OREGON 1973-

SNOW DATA TO APRIL 1, 1980 - APPENDIX 2

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average + #
COLVILLE RIVER							
Baird	17A06	3215	3/29	19	6.0	6.5	5.6
Carlson	18A09	2885	3/29	Trace	0.0	0.0	2.6
Chewelah	17A04	4925	3/29	44	13.3	17.8	17.0
Stranger Mountain	17A05	4990	3/29	42	12.6	11.6	14.5
Togo	18A10	3370	3/29	41	12.8	10.9	12.9
SPOKANE RIVER							
Above Burke	15B08	6100	3/31	52	17.4	22.1	24.7
Above Roland	15B07	4350	3/28	71	25.4	32.6	35.2
Below Roland	15B06	3770	3/28	31	12.4	17.8	16.5
Copper Ridge	16B02	4800	3/28	36	10.2	26.8	29.7
Forty-nine Meadows	15B03	5000	3/28	66	19.7	24.7	32.5
Fourth of July Summit	16B03	3100	3/13	12	3.2	11.6	
			3/26	11	3.9	8.5	8.8
Granite Peak	15B13A	6000	3/28	111	33.8	36.5	46.8
Kellogg Peak	16B05A	5560	3/28	75	25.0	27.8	35.4
Lookout	15B02	5250	3/12	81	24.8	28.8	38.6
			3/31	82	26.4	32.4	37.1
Lost Lake	15B14A	6000	3/28	127	40.3	40.5	61.8
Lower Sands Creek	16B01	3400	3/28	37	11.5	19.2	21.9
Mosquito Ridge	16A04A	5110	3/28	79	28.2	31.0	40.2
Roland Summit	15B05A	5200	3/28	83	30.2	37.4	40.1
Sherwin	16C01	3200	3/27	22	6.7	14.0	13.8
Sunset	15B09A	5600	3/28	68	22.0	32.0	36.2
SANPOIL RIVER							
Sherman Creek Pass	18A01	5350	3/31	42	11.4	8.6	15.0
OKANOGAN RIVER							
Aberdeen Lake	6A-Can	4300	3/31	19	5.8	6.5	6.2*
Blackwall Mountain	100-Can	6250		Late Report		24.4	34.4*
Bouleau Lake	234-Can	4580	3/30	41	11.0	11.2	14.6*
Brenda Mine	193-Can	4800	3/28	40	11.9	9.6	13.8*
Brookmere	27-Can	3200	3/28	25	8.5	6.5	9.6*
Clark +	19A08a	7000	4/1	Not Measured			25.6
Enderby	130-Can	6250	3/31	102	34.0	24.0	38.8*
Esperon Creek Lower	164-Can	4400	3/31	31	8.5	7.9	12.4*
Esperon Creek Middle	163-Can	4700	3/31	41	12.0	11.7	16.1*
Esperon Creek Upper	162-Can	5400	3/31	47	13.9	13.2	19.7*
Freezeout Mdw New	20A38	5000	3/27	72	23.7	28.0	41.0
Graystoke Lake	5-Can	5950	3/28	43	10.9	12.8	20.4*
Hamilton Hill	107-Can	4900	3/29	45	15.0	10.7	15.6*

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND, OREGON 1973.

SNOW DATA TO APRIL 1, 1980 - APPENDIX 3

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #
OKANOGAN RIVER (Cont.)							
Harts Pass	20A05A	6500	3/28	109	39.6	31.9	48.5
Horseshoe Basin +	19A05a	7000	4/1	Not Measured		14.4	19.4
Isintok Lake	152-Can	5510	3/29	27	6.7	5.3	8.3*
Lost Horse Mountain	105-Can	6300	4/1	37	10.0	8.1	9.3*
Loup Loup	19A07	4650	3/27	35	11.4	1.7	9.2
McCulloch	4-Can	4200	3/31	22	5.7	6.5	6.7*
Missezula Mountain	106-Can	5100	3/28	34	9.8	6.7	8.9*
Mission Creek	5A-Can	6000	3/28	55	15.2	15.8	20.2*
Monashee Pass	48A-Can	4500	3/27	34	9.6	12.7	14.1*
Mount Kobau	156-Can	5950	3/31	39	11.3	4.1	13.0*
Muckamuck +	19A09a	6390	3/31	50	15.5	9.6	17.9
Mutton Creek No. 1	19A01	5700	3/27	34	10.6	3.2	14.7
Mutton Creek No. 2SP	19A11SP	6000	3/27	-	8.4	2.4	13.0
New Copper Mountain	46A-Can	4300	3/30	21	6.3	3.5	5.0*
New Penticton Res. #2	183-Can	5225	3/31	34	8.1	6.3	9.4*
Nickel Plate Mtn.	47-Can	6200	3/30	32	8.7	6.5	8.2*
Oyama Lake	203-Can	4400	3/30	18	5.2	5.4	7.5*
Paysayten +	20A28a	4300	3/31	54	16.7	-	18.7
Postill Lake	55-Can	4500	3/31	27	7.2	8.3	9.1*
Quartette Lake	34-Can	4000	3/27	34	10.6	10.8	14.4*
Rusty Creek	19A03	4000	3/27	22	6.0	1.0	6.6
Salmon Meadows	19A02	4500	3/27	39	11.7	2.9	10.3
Silver Star Mountain	99-Can	6050	3/28	74	23.8	19.1	28.4*
Starvation Mtn +	19A10a	6750	3/31	58	18.0	18.0	20.7
Summerland Reservoir	3A-Can	4200	3/30	28	8.7	7.5	9.3*
Touts Coulee	19A06	2845	3/28	2.5	0.8	0.0	1.8
Trout Creek	3-Can	4700	3/27	22	6.3	6.0	7.6*
Vaseux Creek	233-Can	4600	3/30	24	5.3	3.5	6.8*
White Rocks Mountain	70-Can	6000	3/28	56	18.3	17.7	23.7*
METHOW RIVER							
Billy Goat Pass +	20A10a	6409	3/31	58	18.0	-	38.0
Harts Pass	20A05A	6500	3/28	109	39.6	31.9	48.5
Horseshoe Basin +	19A05a	7000	4/1	Not Measured		14.4	19.4
Loup Loup	19A07	4650	3/27	35	11.4	1.7	9.2
Mutton Creek No. 1	19A01	5700	3/27	34	10.6	3.2	14.7
Mutton Creek No. 2SP	19A11SP	6000	3/27	-	8.4	2.4	13.0
Rusty Creek	19A03	4000	3/27	22	6.0	1.0	6.6
Salmon Meadows	19A02	4500	3/27	39	11.7	2.9	10.3
CHELAN LAKE BASIN							
Cloudy Pass +	20A22a	6500	4/1	Marker down		38.7	49.8
Little Meadows +	20A24a	5275	4/2	114	42.6	39.6	49.0
Lyman Lake	20A23A	5900	4/2	132	49.5	43.8	65.5
Park Creek Ridge	20A12A	4600	4/2	99	40.2	66.7	47.0
Rainy Pass	20A09	4780	3/28	91	33.0	28.0	43.7

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND, OREGON 1973-

SNOW DATA TO APRIL 1, 1980 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
						Water Content (inches)	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average#
ENTIAT RIVER							
Blue Creek G.S.	20B28a	5425	4/1	Not Measured		27.4	43.5
Brief	20B19	1600	3/24	10	3.5	0.0	4.6
Entiat Meadows +	20A33a	4540	3/28	60	21.0	25.1	49.3
Entiat River Trail +	20A34a	3325	3/28	46	16.6	13.9	18.2
Four Mile Ridge +	20B27a	6800	3/28	84	29.4	22.8	37.8
Fox Camp +	20A36a	6510	4/1	Not Measured		-	57.8
Pope Ridge	20B20	3540	3/31	47	16.9	14.2	18.9
Pugh Ridge +	20A32a	6725	3/28	97	34.0	23.2	37.5
Shady Pass	20A37	6200	3/27	71	24.5	19.4	32.9
Snow Brushy +	20A35a	3910	3/28	91	32.8	27.5	40.3
Tommy Creek +	20B21a	4900	3/28	64	22.4	14.8	27.3
WENATCHEE RIVER							
Berne-Mill Creek	21B23	2925	3/13	72	23.3	27.3	26.1
			3/27	66	26.2	24.7	29.8
Berne-Mill Creek New SP	21B41	3240	3/27	59	25.0	21.5	28.3
Blewett Pass No. 2	20B02	4270	3/25	38	14.4	13.9	16.9
Chiwaukum G.S.	20B16	1810	3/14	32	10.3	11.9	11.3
			3/28	25	10.1	8.1	10.2
Fish Lake	21B04	3371	3/26	71	30.5	26.6	35.3
Lake Wenatchee	20B05	1970	3/14	34	10.8	15.9	15.4
			3/28	26	10.6	13.0	12.9
Leavenworth R.S.	20B17	1127	3/13	3.4	1.4	5.2	2.2
			3/27	0	0.0	0.0	0.6
Lyman Lake	20A23A	5900	4/2	132	49.5	-	65.5
Merritt	20B18	2140	3/13	36	12.0	19.0	16.0
			3/27	26	11.9	16.7	15.5
Stevens Pass	21B01	4070	3/13	115	39.7	40.6	52.3
			3/27	116	45.5	40.9	54.9
Stevens Pass Sand Shed	21B45	3700	3/13	81	27.2	31.3	37.5
			3/27	79	29.8	30.4	39.5
SQUILCHUCK CREEK							
Beehive Springs	20B03	4400	3/26	28	10.6	7.4	7.9
Scout-A-Vista	20B04	3400	3/26	29	10.7	5.3	7.3
STEMILT CREEK							
Jump-Off	20B08	4450	3/27	30	10.6	9.0	8.2
Stemilt Slide	20B06	5000	3/26	38	13.3	11.1	13.7
Upper Wheeler	20B07	4400	3/26	26	9.9	6.9	8.7
COLOCKUM CREEK							
Colockum Creek Upper	20B22	5300	3/27	33	12.4	9.3	15.1
Colockum Creek Lower	20B23	4300	3/27	31	11.8	8.8	9.9
Trough # 2	20B25SP	5310	3/27	51	19.0	10.5	New

\# Average based on 1963-77 average

\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND OREGON 1973

SNOW DATA TO APRIL 1, 1980 - APPENDIX 5

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average #
YAKIMA RIVER							
Ahtanum R.S.	21C11	3100	3/27	26	10.0	4.2	6.0
Big Boulder Creek	21B09	3200	3/26	41	13.7	13.1	20.1
Blewett Pass No. 2	20B02	4270	3/25	38	14.4	13.9	16.9
Bumping Lake	21C08	3450	3/13	52	17.9	11.2	17.1
			3/28	46	18.3	9.5	16.5
Bumping Lake New	21C36	3400	3/13	60	19.7	14.6	22.0
			3/28	53	21.2	13.1	21.7
Cayuse Pass	21C06	5300		Late Report		63.5	90.3
Colockum Pass	20B09	5370	3/25	48	17.3	10.2	16.6
Cooke Creek	20B10	4123	3/25	13	4.8	0.0	5.1
Corral Pass	21B13	6000	4/4	85	31.8	31.8	43.4
Fish Lake	21B04	3371	3/26	71	30.5	26.6	35.3
Green Lake	21C10	6000	3/27	80	30.1	24.5	34.9
Grouse Camp	20B11	5385	3/26	53	20.8	14.1	16.6
High Creek	20B12	2930	3/26	18	6.9	0.0	3.6
Joe Lake +	21B46a	4624	3/25	153	55.4	-	70.6
Lake Cle Elum	21B14M	2200	3/14	19	6.2	8.9	10.0
			3/31	7	2.7	4.8	6.7
Lemah Creek +	21B47a	3327	3/25	90	32.6	-	46.6
Manashtash	20C01	3935	3/26	19	6.9	0.0	3.0
Morse Lake	21C17	5400	3/27	131	54.0	39.7	59.6
Nanum	21B39	2340	3/26	25	8.8	5.8	8.2
Olallie Meadows	21B02	3625	4/3	89	36.6	39.0	51.9
Satus Pass	20D01	4030	3/31	17	6.6	2.2	9.6
Stampede Pass SP	21B10	3860	3/17	98	35.7	39.6	41.5
			3/31	112	44.9	41.3	43.9
Trail Creek	20B14	3360	3/25	Trace	0.0	0.0	0.0
Tunnel Avenue	21B08	2450	3/11	46	18.1	19.2	25.9
			3/31	50	21.7	18.0	24.6
Van Epps Pass +	20B26a	5925	3/25	110	39.8	-	57.5
Walters Flat	20B15	3360	3/26	25	9.3	4.2	5.5
Waptus Lake +	21B49a	3024	3/25	60	21.7	-	44.5
White Pass (E. Side)	21C28	4500	3/12	61	21.9	20.1	25.1
			3/26	69	23.5	17.5	26.0
AHTANUM CREEK							
Ahtanum R.S.	21C11	3100	3/27	26	10.0	4.2	6.0
Green Lake	21C10	6000	3/27	80	30.1	24.5	34.9
LOWER COLUMBIA DRAINAGE							
ASOTIN CREEK							
Spruce Springs	17C04	5700	3/24	62	21.8	22.9	26.4
MILL CREEK							
Homestead	17C01	4030	3/26	24	9.1	9.1	8.9
Martin Springs	17C02	4400	3/26	41	12.9	14.9	14.9
Tollgate	18D3M	5070	3/28	66	22.7	30.5	26.6

\# Average based on 1963-77 average

\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND OREGON 1973.

SNOW DATA TO APRIL 1, 1980 - APPENDIX 6

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
KLICKITAT RIVER							
Satus Pass	20D01	4030	3/31	17	6.6	2.2	9.6
COWLITZ RIVER							
Cayuse Pass	21C06	5300		Late Report		63.5	90.3
White Pass (E. Side)	21C28	4500	3/12	61	21.9	20.1	25.1
			3/26	69	23.5	17.5	26.0
PUGET SOUND DRAINAGE							
WHITE RIVER							
Cayuse Pass	21C06	5300		Late Report		63.5	90.3
Corral Pass	21B13	6000	4/4	85	31.8	31.8	43.4
Morse Lake	21C17	5400	3/27	131	54.0	39.7	59.6
GREEN RIVER							
Airstrip	21B24	1800	4/1	0	0.0	0.0	2.1
Charley Creek	21B25	1200	4/1	0	0.0	0.0	0.0
Cougar Mountain SP	21B42SP	3200	4/4	32	14.3	15.6	25.1
Grass Mtn. No. 2	21B27	2900	4/1	36	13.3	11.4	24.3
Grass Mtn. No. 3	21B28	2100	4/1	Trace	0.0	0.0	4.9
Lester Creek	21B29	3100	4/1	57	21.9	23.4	27.5
Lynn Lake	21B50	4000	4/1	41	15.8	21.8	29.8
Sawmill Ridge	21B31	4700	4/1	80	27.6	32.6	41.6
Snowshoe Butte SP	21B43SP	5000	4/4	123	48.5	45.8	59.8
Stampede Pass SP	21B10	3860	3/17	98	35.7	39.6	41.5
			3/31	112	44.9	41.3	43.9
Twin Camp	21B30	4100	4/1	59	21.8	27.2	27.8
CEDAR RIVER							
City Cabin	21B03	2390	3/26	25	9.4	7.0	20.0
Mt. Gardner	21B21	3300	3/26	27	10.2	6.5	19.8
Mt. Lindsay	21B16	2500	3/27	34	11.4	11.9	18.2
Mt. Washington New	21B15	3000	3/28	16	6.0	0.0	10.8
Rex River	21B17	2400	3/27	34	12.2	12.1	17.8
S. F. Cedar	21B06	3000	3/27	30	11.3	9.8	23.2
Tinkham Creek	21B20	3400	3/26	47	18.9	12.7	27.9
SNOQUALMIE RIVER							
Alpine Meadow	21B48	3500	3/28	96	33.9	40.2	55.2
Lake Elizabeth	21B19	2900	3/28	92	36.1	37.9	50.7
Olallie Meadows	21B02	3625	4/3	89	36.6	39.0	51.9
S. F. Tolt	21B18	1900	3/31	Trace	0.0	0.0	1.5
SKYKOMISH RIVER							
Lake Elizabeth	21B19	2900	3/28	92	36.1	37.9	50.7
Stevens Pass	21B01	4070	3/13	115	39.7	40.6	52.3
			3/27	116	45.5	40.9	54.9
Stevens Pass Sand Shed	21B45	3700	3/13	81	27.2	31.3	37.5
			3/27	79	29.8	30.4	39.5

Average based on 1963-77 average

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO APRIL 1, 1980 - APPENDIX 7

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
SKAGIT RIVER							
Beaver Creek Trail	21A04	2200	3/28	26	8.9	10.1	15.4
Beaver Pass	21A01	3680	3/27	66	22.6	19.1	35.0
Brown Top Ridge +	21A28a	6000	3/27	130	47.2	35.6	74.2
Cloudy Pass	20A22a	6500	4/2	Marker down		38.7	49.8
Devils Park	20A04	5900	3/28	102	37.1	32.4	47.7
Freezeout Creek Trail	20A01	3500	3/27	31	9.8	11.1	13.7
Freezeout Meadows New	20A38	5000	3/27	72	23.7	28.0	41.0
Granite Creek	21A29A	3500	3/28	43	14.3	13.8	22.3
Harts Pass	20A05A	6500	3/28	109	39.6	31.9	48.5
Klesilkwa	35B-Can	3700	4/1	27	8.3	9.6	14.9*
Lyman Lake	20A23A	5900	4/2	132	49.5	43.8	65.5
Meadow Cabins	20A08	1900	3/28	4.9	1.6	5.8	6.6
New Hozomeen Lake	21A30	2800	3/27	30	10.2	10.8	15.2
New Tashme	26A-Can	2500	3/30	24	6.7	8.7	10.7*
Quartette Lake	34-Can	4000	3/27	34	10.6	11.0	14.4*
Rainy Pass	20A09	4780	3/28	91	33.0	28.0	43.7
Thunder Basin	20A07	4200	3/28	45	13.4	19.9	24.7
BAKER RIVER							
Dock Butte	21A11A	3800	3/30	133	47.0	-	74.5
Easy Pass	21A07A	5200	3/30	165	58.0	-	88.7
Jasper Pass	21A06A	5400	3/30	185	65.0	-	92.6
Marten Lake	21A09A	3600	3/30	158	55.0	-	82.8
Mount Blum +	21A18a	5800	3/30	142	50.0	-	65.9
Panorama New	21A26	4300	3/30	139	61.0	52.3	77.0
Rocky Creek	21A12A	2100	3/30	18	6.0	-	34.4
Schreibers Meadow	21A10A	3400	3/30	108	38.0	-	68.8
S. F. Thunder Creek	21A14A	2200	3/30	18	6.0	-	7.9
Watson Lakes	21A08A	4500	3/30	124	43.0	-	72.3
NOOKSACK RIVER							
Bald Mountain +	21A19a	4400	4/3	120	45.8	43.4	60.0
Canyon +	21A20a	5100	4/3	143	54.2	43.9	73.9
Glacier Creek	21A23	3700	3/31	36	11.1	21.5	19.9
Panorama New	21A26	4300	3/30	139	61.0	52.3	77.0
Twin Lakes +	21A21a	5200	4/3	146	58.6	52.2	84.4
O L Y M P I C P E N I N S U L A							
DUNGENESS RIVER							
Deer Park	23B04	5200	3/27	47	15.7	19.1	22.9
MORSE CREEK							
Cox Valley	23B14	4500	3/27	81	28.5	30.8	44.3
ELWHA RIVER							
Hurricane	23B03	4500	3/29	39	10.7	17.5	26.9

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND OREGON 1973

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Ministry of the Environment, Water Investigations Branch, Victoria, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
  Corps of Engineers
U. S. Department of Agriculture
  Forest Service
U. S. Department of Commerce
  NOAA, National Weather Service
U. S. Department of the Interior
  Bonneville Power Administration
  Bureau of Reclamation
  Geological Survey
  National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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